

STATE OF VERMONT
PUBLIC SERVICE BOARD

Docket No. 7154

Joint Petition, pursuant to 30 V.S.A. § 248(j), of)
Vermont Electric Cooperative, Inc., Ethan Allen)
Operations, Inc., and Northern Community Investment)
Corporation for the construction of a power generation)
facility and related equipment at the Ethan Allen)
manufacturing facility in Beecher Falls, Vermont)

Order entered: 5/12/2006

I. INTRODUCTION AND PROCEDURAL HISTORY

On December 23, 2005, the Vermont Public Service Board ("Board") received a joint petition from Vermont Electric Cooperative, Inc. ("VEC"), Ethan Allen Operations, Inc. ("Ethan Allen"), and Northern Community Investment Corporation ("NCIC") (collectively, the "Joint Petitioners"), pursuant to 30 V.S.A. § 248(j), for a certificate of public good ("CPG") authorizing the construction of a power generation facility and related facilities at the Ethan Allen manufacturing facility in Beecher Falls, Vermont (the "Project"). The Board has also received notice from VEC pursuant to Board Rule 5.202(A) of its proposal to lease this electrical generation facility.

On January 18 and 24, 2006, the Board issued requests to the Joint Petitioners for additional information about the Project. On January 30, 2006, VEC filed responses ("VEC January 30, 2006, Response") to the Board's requests, as well as responses to other questions posed by the Vermont Department of Public Service ("DPS" or "Department"). On February 13, 2006, the Department filed a letter stating that the proposal set forth in the Joint Petition is appropriate for review under § 248(j), and that the Department supports Joint Petitioners' request that the Board begin the notice process required under that statute. The Department noted that it "has identified one criterion, system stability and reliability (criterion 248(b)(3)), on which we believe the Petitioners need to provide further evidence." The Department also noted that "VEC has agreed to perform an interconnection study to address this concern."

Notice of the filing in this docket was issued on February 16, 2006, to all parties specified in 30 V.S.A. § 248(a)(4)(C) and all other interested parties. The notice stated that any party

wishing to submit comments as to whether the petition raises a significant issue with respect to the substantive criteria of 30 V.S.A. § 248 were to submit comments with the Board on or before March 22, 2006. Notice of the filing was also published in the *News and Sentinel, Inc.* on February 22, 2006, and March 1, 2006. The notice requested comments by March 22, 2006, as to whether the petition raised a significant issue with respect to the substantive criteria of 30 V.S.A. § 248.

On March 22, 2006, the Department filed a letter reiterating its desire to review the interconnection study prior to making a recommendation on the petition with respect to 30 V.S.A. § 248(b)(3). Consequently, the Department requested "that the Board take no action on the Joint Petition at this time," and stated that "[u]pon receipt of the interconnection study, the Department will review it and provide a recommendation to the Board as expeditiously as possible." The Department also stated that it has not identified any substantive issues with respect to any of the other criteria of 30 V.S.A. § 248(b). No other comments were received by the March 22, 2006, deadline.

On April 5, 2006, VEC submitted to the Department for its review, and provided a copy to the Board, a system impact study for the interconnection of the Project to the VEC electric system. On May 2, 2006, VEC submitted to the Department for its review, and provided a copy to the Board, an "updated" system impact study (hereinafter, the "Revised System Impact Study"),¹ which addressed the concerns of the Department with respect to the April 5 system impact study.² On May 2, 2006, the Department filed a letter stating that the Revised System Impact Study addressed the concerns of the Department, and recommended that the Board issue an Order and CPG approving the Project. Under separate cover, also on May 2, the Department submitted to VEC, and copied to the Board, a determination under 30 V.S.A. § 202(f) that the Project is consistent with the 2005 Vermont Electric Plan.

1. The April 5 system impact study included Appendices A through E. The May 2 system impact study included title pages for the appendices, but did not include the contents of the appendices. On May 4, 2006, VEC submitted to the Department, and provided copies to the Board, a Revised System Impact Study with complete Appendices A through E. Consequently, the Revised System Impact Study consists of the system impact study submitted on May 2 (and again on May 4), and Appendices A through E submitted on May 4, 2006.

2. The Department's concerns with the April 5 system impact study were relayed directly to VEC, and were not filed with the Board.

The Board has reviewed the petition and accompanying documents and concludes that, pursuant to 30 V.S.A. § 248(j), the proposed facilities are of limited size and scope, the petition does not raise a significant issue with respect to the substantive criteria established by 30 V.S.A. § 248, the public interest is satisfied by the procedures authorized by subsection 248(j), and a CPG should be issued without the notice and hearings otherwise required by 30 V.S.A. § 248.

II. FINDINGS OF FACT

Existing Conditions

1. Ethan Allen operates a furniture manufacturing facility in Beecher Falls, Vermont.³ The facility employs approximately 675 residents of the surrounding Vermont and New Hampshire towns. The cost of energy has been a key factor in Ethan Allen's business decisions, and VEC has worked extensively with Ethan Allen to reduce its electric bill. Bursell pf. at 2.

2. Ethan Allen currently runs two boilers, fueled by waste wood, to generate steam to provide process heat that it uses in its wood-drying kilns. Ethan Allen's wood-drying process requires that the steam be reduced in pressure from that at which it exits the boilers. The existing boilers run 24 hours per day for 50 weeks per year, with a two-week shut-down for maintenance. Abendroth pf. at 2; Revised System Impact Study at 3.

3. Ethan Allen currently has in place a vintage 1936 single-piston, reciprocating-engine driven generator which reduces the pressure of the steam from the boilers and at the same time generates electricity. (This equipment is sometimes referred to as the "Skinner," after its manufacturer). The continuous nameplate-rated capacity of the Skinner engine-generator is 675 kVA, with a maximum generator output of 800 kVA. Abendroth pf. at 2; Bursell pf. at 4; VEC January 30, 2006, Response at 2.

4. Due to the age and high operation and maintenance costs associated with the existing Skinner generator, the power it produces costs approximately 10.5 cents per kWh (\$105 per MWh). Bursell pf. at 4.

5. The VEC distribution system is supplied at 19.9Y/34.5 kV at the Canaan substation, which is in turn interconnected to Hydro Quebec from its Coaticook substation. VEC has a

3. Beecher Falls is located within the Town of Canaan, Vermont.

second source supplied at 19.9Y/34.5 kV from Public Service of New Hampshire ("PSNH") at Beecher Falls. Revised System Impact Study at 3.

Description of Project Proposed by VEC, Ethan Allen, and NCIC

6. VEC proposes to replace the Skinner engine-generator as Ethan Allen's primary source of self-produced electricity with a steam turbine-generator designed and manufactured by Turbosteam Corporation, of Turners Falls, Massachusetts. The existing Skinner engine would remain connected to the plant steam and electric systems, so that it could be used when the proposed Turbosteam generator is unavailable. Abendroth pf. at 2.

7. The existing Skinner generator would not be operated when the proposed Turbosteam generator is in service. The Ethan Allen plant does not have sufficient steam capacity to operate both the existing Skinner generator and the proposed Turbosteam generator concurrently. Revised System Impact Study at 7; VEC January 30, 2006, Response at 2.

8. The installed capacity of the proposed turbine generator would be 770 kVA, or 615 kW, and its output is expected to be 2,583 MWh annually. The size of the new generator was dictated by Ethan Allen's process steam requirements. The size of the turbine that drives the generator was selected to minimize the use of pressure-reducing valves to provide low-pressure process steam. A generator of approximately 600 kW is the largest size unit that can be operated reliably with Ethan Allen's process steam requirements. Bursell pf. at 4; Abebdroth pf. at 4.

9. The proposed turbine-generator would be installed adjacent to the existing Skinner engine. The turbine-generator would be factory-mounted on a steel base and shipped as a single component. A separate control panel would contain all control and protection devices. A moisture separator would be installed in the plant steam piping before the turbine inlet. Abendroth pf. at 3.

10. The only modification to be made outside the existing Beecher Falls facility is the addition of an air-cooled condenser. Depending on the equipment purchased, it would be mounted on six steel columns or wood poles in the yard immediately adjacent to the building. The approximate dimensions of the condenser would be 27 feet long, 13 feet width, and 10.5 feet high. Abendroth pf. at 3; VEC-HRA-5.

11. The turbine would be purchased and owned by NCIC, whose corporate goals are to generate and preserve employment and other social and economic benefits for the region by prudent investment of its own resources. Toward that end, NCIC provides capital and professional assistance for a wide range of business and community development ventures. NCIC would receive funding for the turbine purchased from Community Development Block Grants from the states of New Hampshire and Vermont. Bursell pf. at 4-5.

12. VEC would lease the turbine from NCIC under a net lease agreement and would pay operating and maintenance expenses, taxes and insurance on the turbine. Bursell pf. at 5; exh. VEC-MLB-2.

13. VEC would be entitled to the entire output from the turbine. It would also own the entitlement to claim Renewable Energy Credits ("RECs") associated with the facility. Ethan Allen agrees to take any action reasonably required (at no material cost to Ethan Allen) to ensure that the output from the Project qualifies for RECs. The initial lease term would be for 120 months, and VEC has the option to extend the lease for two additional 60-month terms. (The expected life of the turbine is 20 years.) VEC would pay monthly rent of \$3,125 (\$37,500 annually); however, the rental amount may be adjusted downward if the per megawatt revenue from the RECs falls below an assumed level of \$32.00. The effect of this adjustment should be to maintain the cost to VEC for the power from the turbine at \$42.00 per megawatt-hour or less. Bursell pf. at 5; exh. VEC-MLB-1 at 2.

14. The Lease and Operating Agreement provides that VEC and Ethan Allen would jointly operate and maintain the Project. Ethan Allen would provide employees who would be trained to operate and maintain the Project. These employees would perform twice daily inspections under a checklist to be developed jointly by VEC and Ethan Allen. Bursell pf. at 5.

15. The total Project cost is projected to be \$900,000. The financing for the project would come from three sources. The State of Vermont and the State of New Hampshire would each contribute \$400,000 in community development block grant funding to NCIC to purchase the turbine and related equipment. VEC would contribute \$100,000 in "soft costs," e.g., permitting, associated with the Project. Bursell pf. at 6; VEC January 30, 2006, Response at 2.

Discussion Re: Description of Project Proposed by VEC, Ethan Allen, and NCIC

Section 6 of the Revised System Impact Study recommends additional analyses, upgrades, and settings in order for the Project to not adversely impact system stability and reliability (see Finding 32, below). The Revised System Impact Study (at 13) states that "[t]hese recommendations are being implemented as part of VEC's ongoing work on this project." It is unclear whether VEC is seeking approval for the upgrades listed in Section 6 of the Revised System Impact Study, and whether it is in fact the case that "[t]he only modification to be made outside the existing Beecher Falls facility is the addition of an air-cooled condenser."⁴ Although by this Order and accompanying CPG we are approving the Project, and requiring the Joint Petitioners to follow all of the recommendations of the Revised System Impact Study, we will also require the Joint Petitioners to clarify whether they are seeking approval in this proceeding for the upgrades listed in Section 6 of the Revised System Impact Study as part of the Project. If so, we will require a compliance filing describing those upgrades in greater detail, and information sufficient to demonstrate that the upgrades comply with the Section 248 criteria.⁵

REVIEW OF THE PROJECT UNDER THE SECTION 248(b) CRITERIA**Orderly Development of the Region**

[30 V.S.A. § 248(b)(1)]

16. The Project will not unduly interfere with the orderly development of the region with due consideration having been given to the recommendations of the municipal and regional planning commissions, the recommendations of the municipal legislative bodies, and the land conservation measures contained in the plan of any affected municipality. This finding is supported by Findings 17 through 21, below.

17. The Project will have a favorable impact on the orderly development of the region in that it will help promote continued viability of a major employer in Northeastern Vermont. Bursell pf. at 9.

18. VEC submitted a description of the Project to the Northeastern Vermont Development Association ("NVDA") and to the Town of Canaan Planning Commission on September 7, 2005,

4. Abendroth pf. at 3.

5. The findings and discussions in today's Order do not address the possible approval of those upgrades.

pursuant to 30 V.S.A. §248(f). Both entities have submitted letters in support of the Project as beneficial to the area. Bursell pf. at 8-9; exhs. VEC-MLB-5 through -8.

19. The NVDA Regional Plan (effective November 3, 2000) references solar and "other alternative sources of energy" and encourages "small scale attempts at energy independence" in order "to help diversify the region's capacity to produce energy." (Plan at 18-19). Elsewhere the Plan encourages implementation of energy conservation and efficiency practices. The Project is consistent with all of these goals. Bursell pf. at 9.

20. The Municipal Plan for Canaan, Vermont (dated September 1999) notes that the Beecher Falls Ethan Allen facility is the town's largest employer, providing jobs (as of March 1999) for 680 people. Presumably any effort which would keep that employer in Canaan is in the town's interest. Bursell pf. at 9.

21. The Beecher Falls facility is the subject of Land Use Permit No. 7E0069. VEC has consulted with the District 7 Coordinator as to whether the project requires an amendment to the Permit. On January 18, 2006, VEC submitted a Jurisdictional Opinion #7.232, issued by Kristen Sultan, the Coordinator for the District 7 Environmental Commission. Ms. Sulten concluded that a Land Use Permit amendment was not required for the Project. Bursell pf. at 9.

Need For Present and Future Demand for Service

[30 V.S.A. § 248 (b)(2)]

22. The Project is required to meet the need for present and future demand for service which could not otherwise be provided in a more cost effective manner through energy conservation programs and measures and energy-efficiency and load management measures, including but not limited to those developed pursuant to the provisions of Sections 209(d), 218c, and 218(b) of Title 30. This finding is supported by the following three findings.

23. The Project would meet a significant portion of Ethan Allen's demand for electric service. Revised System Impact Study at 3.

24. As a result of constructing the Project, VEC would benefit from savings in power costs. Specifically, power from the turbine costing approximately \$42.00 per megawatt hour would displace power now purchased on the market for greater than \$80.00 per megawatt hour. Thus, this project provides clear financial benefits for VEC. Bursell pf. at 6.

25. The Project is considered to be an energy-efficiency measure. It would replace a very inefficient steam engine with a highly efficient steam turbine as Ethan Allen's primary source of self-generated energy, allowing for the same amount of fuel to produce an additional 1.6 million kilowatt-hours of electricity per year. The more efficient use of fuel in an industrial process is, by definition, an energy-efficiency measure. Abendroth pf. at 5.

System Stability and Reliability

[30 V.S.A. § 248(b)(3)]

26. The Project will not adversely affect system stability and reliability. This finding is supported by Findings 27 through 35, below.

27. All electricity produced by the Project is expected to be consumed by Ethan Allen. The generator's output is expected to be 600 kW, which is below the 800 kW minimum load of the plant, and therefore a net flow from the plant to the VEC system is not expected under any circumstances. VEC will continue to supply Ethan Allen's power requirements in excess of what is produced by the Project. However, for instances in which Ethan Allen's power requirements are less than what is produced by the Project, VEC would deliver any excess power from the Project to VEC's existing distribution system outside of the Ethan Allen Beecher Falls facility. Abendroth pf. at 4, 5; Revised System Impact Study at 3.

28. The Revised System Impact Study was conducted under the guidance of the following two reports: (1) the IEEE Standard 1547 for Interconnecting Distributed Resources with Electric Power Systems, July 28, 2003 ("IEEE 1547"); and (2) Utility Interconnection Guidelines for Distributed Generation Equipment of 1 MW or Less Connected to Radial Distribution Systems by Philip Barker of Power Technologies, Inc., Schenectady, NY, for the Vermont Department of Public Service, January 23, 2006 ("Utility Interconnection Guidelines").⁶ Revised System Impact Study at 5.

29. Utility Interconnection Guidelines provides, for generators between 500 kW and 1,000 kW, eight screening conditions, which, if met, obviate the need to conduct a more detailed analysis. The Project meets seven of the eight screening conditions. Revised System Impact Study at 5-8.

6. This report substantially incorporates the standards listed in IEEE 1547.

30. The screening condition that is not met (Condition vi.) states that "[t]he fault contributions due to distributed generation will not increase the fault level by more than 20% for any protective device on the distribution system (both primary and secondary devices)." The study results indicated that three-phase to ground fault level would increase by 22% when served by the Canaan substation, and by 3.4% when served from Beecher Falls. The single-phase to ground fault would correspondingly be increased by 18% and 1.7%. Although the 22% increase of the three-phase to ground fault level served by the Canaan substation is above the 20% screening condition, the Revised System Impact Study stated that no protective equipment on the 19.9/34.5 kV system would exceed its interrupting rating, and the additional fault current would improve the clearing times for faults on the system. Revised System Impact Study at 6, 8.

31. The Project will not adversely affect system stability and reliability, provided that the additional analyses, upgrades, and settings specified in the Revised System Impact Study are performed or implemented. Revised System Impact Study at 3.

32. Section 6 of the Revised System Impact Study recommends that VEC perform the following specific work activities as part of its installation of the generator:

- (a) A secondary fault analysis on the 480 volt bus.
- (b) A coordination study on the VEC distribution system and the Ethan Allen plant system to allow proper setting of the generator relays and primary breakers.
- (c) Complete the installation of the 34.5 kV breaker (recloser) required for automation of the PSNH interconnection. This breaker will eliminate the problems of single-phase fault interruption caused by operation of the existing fuses.
- (d) Installation of a 34.5 kV breaker (recloser) as protection for the 34,500-480 volt transformer.
- (e) Install a load-break switch in the 34.5 kV line that feeds the transformer supplying the plant bus where the new generator will be connected.
- (f) Replace the existing transformer supplying the plant bus where the new generator will be connected with a 2000 kVA, 34500-480 volt transformer with a grounded wye-delta configuration.
- (g) A power factor study of the 480 volt plant bus should be conducted to determine the generator power factor settings. The plant and distribution

system losses may be kept to a minimum with the generator operating at an optimal power factor.

Revised System Impact Study at 13.

33. IEEE 1547 recommends the following two conditions in addition to those included in the eight screening criteria contained in the Utility Interconnection Guidelines: (1) that the generator not actively regulate the voltage at the point of common connection, and (2) that the generator be tripped prior to a reclose operation on the distribution supply system. The Revised System Impact Study states that the generator would not be run with active bus voltage control, and that, as part of the generator breaker coordination study, the reclose timing of the supply reclosers would be set to assure that the generator is off line before a reclose attempt is made. Revised System Impact Study at 6, 8.

34. The main line of the 19.9/34.5 kV distribution circuit is rated at 180 A, which translates to 10,800 kVA. The circuit peak load is presently 3,989 kW, and the operation of the generator would reduce this loading. No section of the line would have higher loading as a result of the Project. No thermal loading issues are therefore anticipated. Revised System Impact Study at 8.

35. During conditions of light loading (Ethan Allen load at zero), the voltage rise from the Canaan substation with the generator at 610 kW would be 0.5%. This scenario is not expected to actually occur, but if it were to happen, it would not result in a high voltage condition in the Beecher Falls area. Revised System Impact Study at 8-9.

Discussion re: System Stability and Reliability

Our positive finding that the Project would not adversely affect system stability and reliability depends upon the Joint Petitioners implementing all of the recommendations of the Revised System Impact Study. Therefore, as a condition of this approval, we will require the Joint Petitioners to implement all of the recommendations of the Revised System Impact Study.

Economic Benefit to the State and Its Residents

[30 V.S.A. § 248(b)(4)]

36. The Project will result in an economic benefit to the state and its residents. This finding is supported by Findings 37 through 44, below.

37. Under the terms of the Lease and Operating Agreement, VEC would own all of the electricity generated by the Project. Ethan Allen would continue to purchase from VEC all of its

Beecher Falls facility's requirements for electric power, at rates approved by the Board (as they may change from time to time). Exh. MLB-1 at 2.

38. VEC would benefit from savings in power costs. Specifically, power from the turbine costing approximately \$42.00 per megawatt hour would displace power now purchased on the market for greater than \$80.00 per megawatt hour. Thus, this project provides clear financial benefits for VEC. Bursell pf. at 6.

39. The Project also provides an economic benefit by helping ensure that Ethan Allen remains in Vermont. Closing the Beecher Falls facility would have a devastating effect on Ethan Allen's current employees – many of whom are VEC customers – and on the entire Northeastern Vermont region. Ethan Allen provides 11 million dollars in payroll, and several hundred thousand dollars of taxes to the region. Bursell pf. at 6-7.

40. In the event that Ethan Allen closes its Beecher Falls plant, VEC has the opportunity to relocate the turbine elsewhere in its system and to negotiate a new lease agreement with NCIC. If VEC is unable to find an alternative location, the lease agreement terminates without penalty to VEC. Bursell pf. at 7.

41. VEC would pay Ethan Allen a monthly "host credit" for locating the turbine at its facility. The host credit varies with the amount of megawatt hours produced, based on the following formula:

$$\text{Host Credit} = \$32.00x - [(x - 75) * \$6.00]$$

where: \$32.00 is the assumed value of RECs in U.S. dollars per MWh,

x is generation in MWh per month,

75 is the current Ethan Allen generation capability in MWh per month, and

\$6.00 is the cost associated with block loading in U.S. dollars per MWh.

Bursell pf. at 7-8; exh. VEC-MLB-1 at 2.

42. The above formula assumes a REC credit of \$32.00 per megawatt-hour for the first 120-month lease term. For subsequent lease terms, a new value for the REC credit will be negotiated based on market conditions. The formula also includes an adjustment for the penalty that VEC will incur under its agreement with Hydro Quebec for having to reduce deliveries over the block load facilities by the incremental output from the new generation facility. (Presently

the Ethan Allen facility is capable of generating 75 MWh per month on average, so under the formula, the penalty is applied to only the incremental output.). Bursell pf. at 8.

43. Thus, under the formula, if the turbine produces the expected output of 2,583 MWh, VEC would pay Ethan Allen a host credit of \$72,000 per year. Combined with the rate design changes that VEC adopted in December 2004, VEC will have delivered energy cost savings to Ethan Allen of approximately 20%. Bursell pf. at 8 (as modified by VEC January 30, 2006, Response at 1).

44. VEC has also been able to mitigate its exposure to uncertainty in the market for RECs. Under the lease with NCIC, VEC's payments decrease if the market for RECs falls below \$32.00. The benefit of an increase in the value of the RECs flows solely to VEC. Bursell pf. at 7; exh. VEC-MLB-2 at 2.

**Aesthetics, Historic Sites, Air and Water Purity,
the Natural Environment, and Public Health and Safety**

[30 V.S.A. § 248(b)(5)]

45. The Project will not have an undue adverse effect on aesthetics, historic sites, air and water purity, the natural environment and public health and safety. This finding is supported by Findings 46 through 71, below, which include the criteria specified in 10 V.S.A. §§ 1424a(d) and 6086(a)(1)-(8)(a) and (9)(k).

Public Health and Safety

46. The Project will not have an undue adverse effect on public health and safety. The Project will be located within an existing building, except for the installation of the condenser directly adjacent to the building in the heart of an industrial site. Abendroth pf. at 9-10.

Air Pollution

[10 V.S.A. § 6086(a)(1)]

47. The Project will not have an undue adverse effect on air purity. The Project will not involve any industrial/manufacturing emissions, excessive dust and smoke during construction, dust or noise from blasting, odors or excessive noise from construction activity, and therefore will not result in any undue air pollution. There will be minimal earth disturbance and no burning will take place. Abendroth pf. at 6-7.

Headwaters and Water Quality

[10 V.S.A. §§ 1424a(d)(1)&(2) and § 6086(a)(1)(A)]

48. The Project will not result in an undue reduction of the quality of the ground or surface waters flowing through or upon lands which are not devoted to intensive development. This finding is supported by the following finding.

49. The Project will be located within an existing building, except for the installation of the condenser directly adjacent to the building in the heart of an industrial site. Because most of the changes will be within an existing building, there will be no impact under this criterion. The only construction that would occur outside the plant building is the work associated with installation of the condenser. Because this area is presently used for activity related to furniture manufacture, there would be no new impact under this criterion as a result of condenser installation. Abendroth pf. at 3, 7, 9-10.

Waste Disposal

[10 V.S.A. § 6086(a)(1)(B)]

50. The existing reciprocating steam-engine and generator will remain in place. Any construction waste produced as a result of the installing of the new turbine-generator will be disposed of in an approved landfill. Abendroth pf. at 7.

Water Conservation

[10 V.S.A. § 6086(a)(1)(C)]

51. The Project will not increase the existing use of water at the Ethan Allen plant. Abendroth pf. at 7.

Floodways, Streams, & Shorelines

[10 V.S.A. §§ 1424a(d)(3) & (12) and §§ 6086(a)(1)(D), (E), & (F)]

52. The Project will not diminish the waters' value in providing temporary water storage for flood water and storm runoff, and will not restrict or divert the flow of floodwaters or increase the peak discharge of the streams and endanger the health, safety, and welfare of the public or of riparian owners during flooding. This finding is supported by the following three findings.

53. Because most changes will be within an existing facility, there will be no impacts on floodways. The addition of the condenser will not have any impacts on floodways, as the condenser will be located within the existing developed plant property. Abendroth pf. at 8.

54. This Project is not located on or adjacent to the banks of a stream. Abendroth pf. at 8.

55. The Project is not located on a shoreline. Abendroth pf. at 8.

Wetlands

[10 V.S.A. § 6086(a)(1)(G)]

56. The Project will not violate the Natural Resources Board rules relating to significant wetlands. This finding is supported by the following two findings.

57. The Project will be located within an existing building, except for the installation of the condenser directly adjacent to the building in the heart of an industrial site. Abendroth pf. at 7, 9-10.

58. The Project will not affect any wetlands. Abendroth pf. at 8.

Sufficiency of Water and Burden on Existing Water Supply

[10 V.S.A. §§ 6086(a)(2)&(3)]

59. The Project does not increase the demand for water at the Ethan Allen plant above present consumption. Abendroth pf. at 8.

60. The Project does not increase the burden on the existing water supply to the Ethan Allen plant. Abendroth pf. at 8.

Soil Erosion

[10 V.S.A. § 6086(a)(4)]

61. There will be limited soil disturbance, and no reduction in the capacity of the land to hold water. Abendroth pf. at 9.

Transportation Systems

[10 V.S.A. § 6086(a)(5)]

62. The Project will not have an impact on any means of transportation. The Beecher Falls facility is located off the public road, and the installation of the Project will not impede traffic in any way. Abendroth pf. at 9.

Educational and Municipal Services

[10 V.S.A. §§ 6086(a)(6)&(7)]

63. The Project does not require educational, municipal, or government services. Abendroth pf. at 9.

**Scenic or Natural Beauty, Aesthetics,
and Rare and Irreplaceable Natural Areas**

[10 V.S.A. §§ 1424a(d)(7) through (9) and § 6086(a)(8)]

64. The Project will not have an undue adverse impact on scenic or natural beauty of the area, aesthetics, or rare and irreplaceable natural areas. This finding is supported by the following two findings.

65. The generator itself would be located within an existing building. The only modification to be made outside the existing Beecher Falls facility is the addition of an air-cooled condenser. Installation of the condenser would be directly adjacent to the building in the heart of an industrial site. Depending on the equipment purchased, the condenser would be mounted on six steel columns or wood poles in the yard immediately adjacent to the building. The approximate dimensions of the condenser would be 27 feet long, 13 feet width, and 10.5 feet high. Abendroth pf. at 3, 9-10; exhs. VEC-HRA-4 through -6.

66. The Project would not result in any meaningful change aesthetically from what presently exists. Abendroth pf. at 10.

Discussion re: Scenic or Natural Beauty, Aesthetics, Rare and Irreplaceable Natural Areas

Based on the above findings, we conclude that the Project would not have an undue adverse effect on the aesthetics or scenic and natural beauty of the area, or on rare and irreplaceable natural areas. In reaching this conclusion, we have relied on the Environmental Board's methodology for the determination of "undue" adverse effects on aesthetics and scenic and natural beauty as outlined in the so-called Quechee Lakes decision.⁷

As required by this decision, it is first appropriate to determine whether the impact of a project would be adverse. A project would have an adverse impact on the aesthetics of the area if its design is out of context or not in harmony with the area in which it is proposed to be located. If it is found that the impact would be adverse, it is then necessary to determine whether such an impact would be "undue." Such a finding would be required if a project violates a clear written

7. Quechee Lakes Corporation, Land Use Permit Application #3W0411-EB "Murphy Farm" and #3W0439-EB "Newton Inn," Findings of Fact, Conclusions of Law and Order, Dockets #254 and #255 (Nov. 4, 1985); Quechee Lakes Corporation, Land Use Permits #3W0411-EB "Murphy Farm" and #3W0439-EB "Newton Inn", Memorandum of Decision, Reconsider Motions, Dockets #254 and #255 (Jan. 13, 1986).

community standard intended to preserve the aesthetics or scenic beauty of the area, if it would offend the sensibilities of the average person, or if the applicant failed to take generally available mitigating steps which a reasonable person would take to improve the harmony of the proposed project with its surroundings. The Public Service Board's assessment of whether a particular project would have an "undue" adverse effect based on these standards should be significantly informed by the overall societal benefits of the project.⁸

Given the facts of this case, we find that the Project will not have an adverse effect on aesthetics. The majority of the Project would be located within an existing building, and would therefore not be visible from outside the building. The only portion of the Project that would be located outside of the building is the condenser. The condenser would be located adjacent to the building, and would be approximately 13 feet tall. Especially because the condenser would be located within the grounds of an industrial complex, we conclude that the condenser would be in context and in harmony with its surroundings.

Even if the Project were to have an adverse impact on aesthetics, such impact would not be undue. The Project does not violate a clear, written community standard, would not be shocking or offensive, and the parties and this Board have not identified any generally available mitigating steps which a reasonable person would take to improve the harmony of the Project with its surroundings. VEC submitted a description of the Project to NVDA and to the Town of Canaan Planning Commission, and both entities submitted letters in support of the Project as beneficial to the area. The Project would not be shocking and offensive to the average person because the majority of the Project would be located inside an existing building, and the portion to be located outside would be located adjacent to the building, in an industrial complex. Due to the location and minimal visibility of the Project, aesthetic mitigation measures would not be necessary.

Archeological and Historic Resources

[10 V.S.A. §§ 1424a(d)(10)&(11) and § 6086(a)(8)]

67. There are no known historical sites in the immediate vicinity of the Project. There will be no effect on any nearby archeological sites. Abendroth pf. at 11.

8. Docket 6884, Order of 4/21/04 at 20-21.

68. As to historic preservation, the 1936 steam engine may have historical value, and a plan to preserve that value has been required as part of the Vermont Community Development Grant process. Specifically, the Division for Historic Preservation has reviewed the project to identify the Project's potential impacts to historic buildings and structures, historic districts, historic landscapes and settings, and to known or potential archeological resources. The State Historic Preservation Office concluded that the Project will have no adverse effect on the historic preservation criteria provided that two conditions are met: (1) the Skinner must stay in place; and (2) it must be documented by an architectural historian. As the administrator for the Vermont Community Development grant, NCIC will ensure that the conditions are met. Abendroth pf. at 10; exh. VEC-HRA-9.

Necessary Wildlife Habitat and Endangered Species

[10 V.S.A. §§ 1424a(d)(4) through (6) and § 6086(a)(8)(A)]

69. The Project will not destroy or significantly imperil any necessary wildlife habitat or any endangered species. This finding is supported by the following finding.

70. The Project would be located within an existing building, except for the installation of the condenser immediately adjacent to the building in the heart of an industrial site. Because most of the changes will be within an existing building, there will be no impact under this criterion. The only construction that would occur outside the plant building is the work associated with installation of the condenser. Because this area is presently used for activity related to furniture manufacture, there would be no new impact under this criterion as a result of condenser installation. Abendroth pf. at 3, 7, 9-10.

Development Affecting Public Investments

[10 V.S.A. § 6086(a)(9)(K)]

71. The only public investment near the Project is the road from which the facility is accessed. The Project will not affect the public's use of this road. Abendroth pf. at 10.

Consistency With Company's Approved Least-Cost Integrated Plan

[30 V.S.A. § 248(b)(6)]

72. VEC's current Integrated Resource Plan ("IRP") was filed with the Public Service Board on January 15, 2004. On July 29, 2005, VEC and the Department of Public Service submitted a Stipulation setting forth the terms of which the Department could recommend approval. The Board has not yet acted on the July 29 filing. The Project is consistent with Condition 6

(resource diversity) and Condition 10 (implementation of distributed generation) of the Stipulation, as well as Sections 6.7.3 and 12.2 of the IRP with regard to combined heat and power installations, reduction of customer energy costs and customer retention. Abendroth pf. at 11.

Discussion re: Least-Cost Integrated Plan

Section 248(b)(6) provides that, before issuing a certificate of public good for a company's proposed purchase, investment, or construction, the Board must find that the proposed action "is consistent with the principles for resource selection expressed in that company's *approved* least cost integrated plan" (emphasis added). VEC has filed several IRPs over the years; however, to date, none of those plans has been approved by the Board. Therefore, VEC does not have an approved IRP.

Both the legislature and this Board have recognized that lack of an approved least-cost plan should not, by itself, preclude issuance of a certificate of public good for a proposed project. When the legislature amended Section 248 to add criterion (b)(6), it expressly provided that the statute as amended:

does not prohibit the public service board from granting a certificate of public good under 30 V.S.A. § 248 for a utility which does not have an approved least cost integrated plan; provided that the board shall consider in its review under that section those environmental effects which the utility must consider in developing a least cost integrated plan.⁹

Consistent with this legislative intent, when utilities do not have approved integrated resource plans, the Board evaluates projects under Section 248(b)(6) according to their consistency with the principles of least-cost integrated planning.¹⁰ Those principles include consideration of the environmental impacts of the utility's resource decisions.¹¹

The Vermont legislature and this Board have thus both concluded that it is appropriate to allow for approval of projects in the absence of an approved integrated least-cost plan. This allowance makes practical sense, in that it permits the Board to approve projects that are needed,

9. P.A. No. 259, § 8 (1992 Vt., Adj. Sess.).

10. Docket No. 5737, *Petition of Citizens Utilities Company re Baldwin Hydroelectric Project*, Order of 4/17/95 at 16–17.

11. See 30 V.S.A. § 218c(a)(1).

beneficial to the public, and consistent with least-cost planning principles, even if the utility in question does not have an approved least-cost plan.¹² Based upon the evidence submitted in this proceeding, we conclude that the Project is consistent with the principles of least-cost integrated planning.

Compliance With Electric Energy Plan

[30 V.S.A. § 248(b)(7)]

73. The Project is in compliance with the electric energy plan approved by the Department under 30 V.S.A. § 202. This finding is supported by the following two findings.

74. The Project is consistent with the goals of Chapter 6 of the Vermont Twenty Year Electric Plan 2005 with regard to promoting energy efficiency. The Project would result in the production of more electricity from the same amount of process steam that is presently consumed in the Ethan Allen facility. The Project is also consistent with the goals of Chapter 8 of the Vermont Twenty Year Electric Plan 2005 with regard to promoting distributed utility planning and implementation. Abendroth pf. at 11.

75. The Department of Public Service has determined that the Project is consistent with the Twenty Year Electric Plan adopted January 19, 2005. Letter dated May 2, 2006, from J. Riley Allen to Victoria J. Brown.

Outstanding Water Resources

[30 V.S.A. § 248(b)(8)]

76. The Project is not located on or near any Outstanding Resource Waters. Abendroth pf. at 12.

Waste to Energy Facilities

[30 V.S.A. § 248(b)(9)]

77. The Project is not a municipal solid-waste-to-energy facility, and, therefore, this criterion is inapplicable.

12. We do not wish to suggest that Vermont's utilities should blithely ignore their least-cost planning obligations. Instead, we are observing that, in those instances where the utility has not fulfilled those obligations, it would only make an undesirable situation worse to indiscriminately veto all resource options that come within the purview of Section 248, thereby depriving the utility of access to options to serve their customers in ways that might be far superior to the options that would remain.

Existing or Planned Transmission Facilities

[30 V.S.A. § 248(b)(10)]

78. The Project can be served economically by existing or planned transmission facilities without undue adverse effect on Vermont utilities or customers. Joint Petitioners plan to implement all of the recommendations of the Revised System Impact Study. In addition, the existing VEC Canaan distribution system is physically separated from other Vermont utilities and, therefore, the Project would have no adverse effect on other Vermont utilities or customers. Completion of the Project would make a small amount of capacity (less than 100 kW) available for use elsewhere on VEC's Canaan system. Abendroth pf. at 12; Revised System Impact Study.

III. 30 V.S.A. § 248(c) - REQUIRED VOTE AND ASSESSMENT OF RISKS AND BENEFITS

30 V.S.A. § 248(c) provides, in its entirety:

In the case of a municipal plant or department formed under local charter or chapter 79 of this title or a cooperative formed under chapter 81 of this title, any proposed investment, construction or contract which is subject to this section shall be approved by a majority of the voters of a municipality or the members of a cooperative voting upon the question at a duly warned annual or special meeting to be held for that purpose. The municipal department or cooperative shall provide to the voters or members, as the case may be, written assessment of the risks and benefits of the proposed investment, construction or contract which were identified by the public service board in the certificate issued under this section. The municipal department or cooperative also may provide to the voters an assessment of any other risks and benefits.

As a cooperative formed under chapter 81 of Title 30, VEC is required to comply with Section 248(c). Prior to March 22, 2006 (the expiration date of the comment period for this Docket), VEC issued notice of the Project to its members in anticipation of a member vote at its annual meeting on April 29, 2006. In its notice to its members, VEC described the Project as follows:

The generation facility will be purchased with grant funding from the States of Vermont and New Hampshire. VEC will use the output to serve Ethan Allen and pay Ethan Allen a "host credit" for hosting the facility at its site. The financial agreements are designed to ensure that VEC's cost of the power from the generator remains around \$42.00 per megawatt hour, which in today's market is a very favorable price.

The Project involves the installation of a high-efficiency turbine generator which will use "waste" steam from Ethan Allen's other processes to generate

electricity to serve Ethan Allen's manufacturing facility. The Project offers many benefits, including lower power costs for VEC, lower overall costs for Ethan Allen, and other benefits to the State of Vermont and its residents by helping to ensure that a major employer in northeastern Vermont remains in the state. This Project has been the culmination of a great deal of work by VEC, Ethan Allen, and various agencies within the States of Vermont and New Hampshire.

VEC did not identify any risks associated with the Project. The Board concurs with VEC's description of the benefits of the Project.

IV. CONCLUSION

Based upon all of the above evidence, we conclude that the Project will be of limited size and scope; the petition does not raise a significant issue with respect to the substantive criteria of 30 V.S.A. § 248; the public interest is satisfied by the procedures authorized by 30 V.S.A. § 248(j); and the proposed Project will promote the general good of the state. The Project would provide an in-state, renewable source of electricity that is expected to lower costs for a major employer in Vermont.

V. ORDER

IT IS HEREBY ORDERED, ADJUDGED AND DECREED by the Public Service Board of the State of Vermont that the proposed Project, in accordance with the evidence and plans presented in this proceeding, will promote the general good of the State of Vermont in accordance with 30 V.S.A. Section 248(j), and a certificate of public good shall be issued in the matter, subject to the following conditions:

1. Construction, operation, and maintenance of the project shall be in accordance with the plans and evidence submitted in this proceeding.
2. All of the recommendations of the Revised System Impact Study must be implemented.
3. Within two weeks of the date of this Order, Joint Petitioners shall file a clarification of whether approval is sought in this Docket for any of the upgrades recommended in the Revised System Impact Study. For any recommendations in the Revised System Impact Study for which Joint Petitioners seek approval in this Docket, Joint Petitioners shall also describe those upgrades

in greater detail, and provide information sufficient to demonstrate that the upgrades comply with the Section 248 criteria. This compliance filing shall be made to the parties for comment and to the Board for approval. Parties shall have two weeks to provide any comments on Joint Petitioners' filing.

4. Joint Petitioners shall comply with all conditions in the letter dated September 21, 2005, from the Vermont Division for Historic Preservation (exh. VEC-HRA-9).

5. The Certificate of Public Good shall not be transferred without prior approval of the Board.

Dated at Montpelier, Vermont, this 12th day of May, 2006.

<u>s/James Volz</u>)	
)	
)	PUBLIC SERVICE
<u>s/David C. Coen</u>)	
)	BOARD
)	
<u>s/John D. Burke</u>)	OF VERMONT

OFFICE OF THE CLERK

FILED: May 12, 2006

ATTEST: s/Susan M. Hudson
Clerk of the Board

NOTICE TO READERS: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Board (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: Clerk@psb.state.vt.us)

Appeal of this decision to the Supreme Court of Vermont must be filed with the Clerk of the Board within thirty days. Appeal will not stay the effect of this Order, absent further Order by this Board or appropriate action by the Supreme Court of Vermont. Motions for reconsideration or stay, if any, must be filed with the Clerk of the Board within ten days of the date of this decision and order.